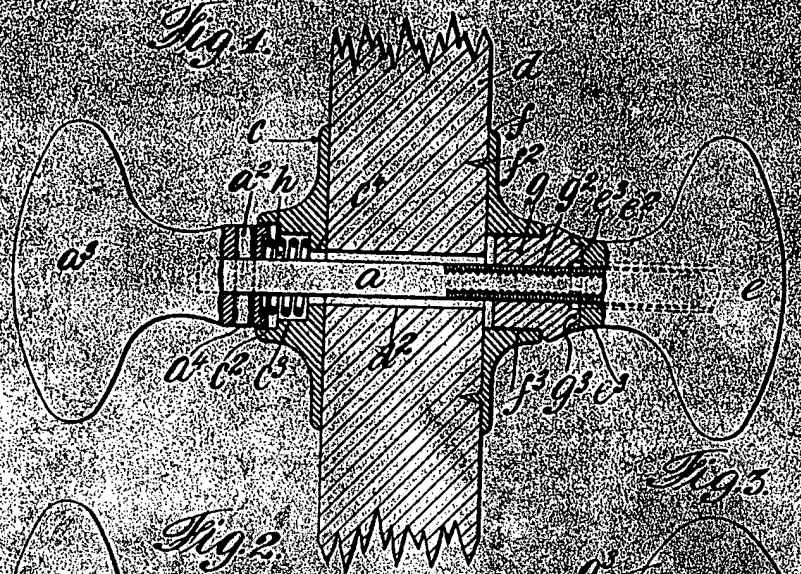
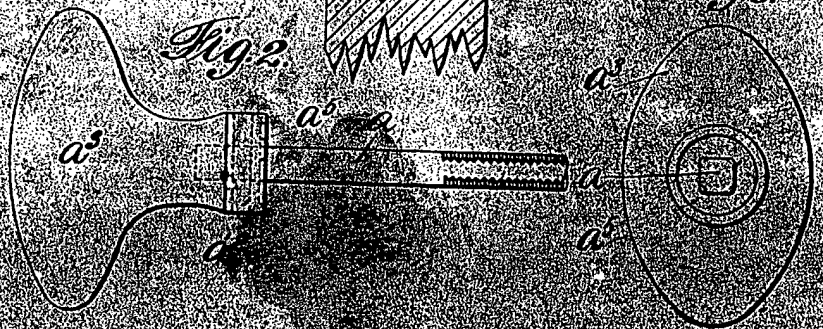
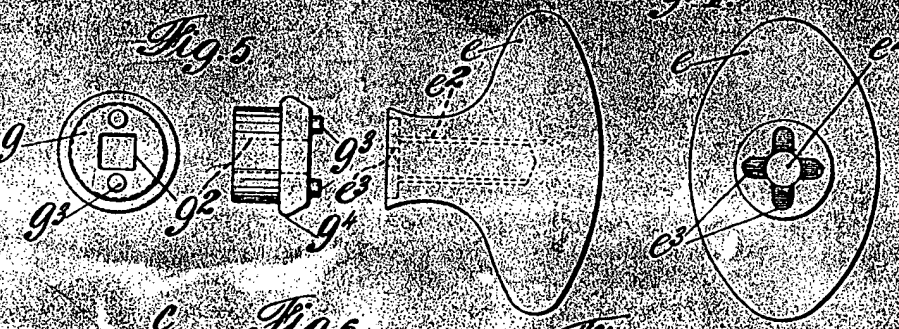
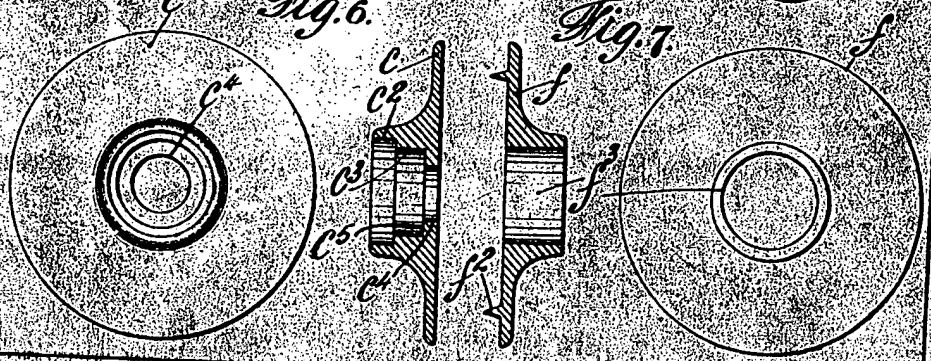
292-348

354,190 COMPLETE SPECIFICATION 1 SHEET









[This Drawing is a reproduction of the Original on a reduced scale.]

Charles & Read Ltd. Photo Litho

very simple construction and having an extremely neat appearance are provided.

I am aware that it has previously been proposed for the purpose of securing door handles or knobs on their spindles to interlock one handle or knob by the rebound of a previously compressed spring to a sleeve carried on the spindle, the knob being interlocked by a peg and hole engagement and, when in position, being capable of turning with the spindle, and I make no broad claim to such construction and arrangement.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. Knob and spindle fittings for doors and the like comprising a screwthreaded spindle fixed to a knob, a second knob screw-engaging the free end of the spindle, a pair of rose plates through which the spindle passes, one of said rose plates being associated with each knob, a non-revoluble bush slidably applied to the spindle and adapted to be coupled with the screwthreaded knob and resilient means between the fixed knob and the rose plate or door to permit of longitudinal displacement of the spindle and allow of disengagement of the coupling between the bush and its associated knob, said resilient means normally coupling the knob and bush.

2. Fittings in accordance with Claim 1 wherein a peg and socket coupling is provided between the bush and the adjacent face of the loose knob.

3. Fittings in accordance with Claim 2 wherein a spring operating in compression is disposed within the rose plate associated with the fixed knob and the bush rotatably engages a sleeve of the rose plate associated with the removable knob.

4. Fittings in accordance with Claim 3 wherein an annular shoulder is provided upon the bush to limit its inward movement within the sleeve of its associated rose plate.

5. The improved knob and spindle fittings for doors and the like, substantially as hereinbefore described and substantially as illustrated in the accompanying drawings.

Dated this 30th day of January, 1931.

GEORGE T. FUERY,
Chartered Patent Agent,
Newhall Chambers,
8, Newhall Street, Birmingham.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1931

Birmingham, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to knob and spindle fittings for doors and the like, and the object thereof is to provide a new or improved means for applying the fittings so that no fixing devices for securing the usual rose plates to the doors are visibe.

According to the invention the knob and spindle fittings comprise a screwthreaded spindle fixed to a knob, a second knob screw-engaging the free end of the spindle and a pair of rose plates, which are associated with the respective knobs and through which the spindle passes, a non-revoluble bush slidable on the spindle being adapted to be positively coupled with the screwthreaded knob, said engagement being maintained by the action of a spring or the like which permits of the longitudinal displacement of the spindle to allow of the coupling between the knob and the sleeve being disengaged.

The resilient means referred to preferably consists of a compressible spring located within its associated rose plate, the one end of the spring abutting against a shoulder of the plate and the other end operating against the adjacent face of the knob.

The other rose plate is provided with an axial sleeve within which the bush is adapted to revolve, the latter being provided with a shoulder normally abutting against the adjacent end of the sleeve thereby positioning the bush. The face of the latter is provided with a pair of concentrically arranged pegs which are adapted to register with a corresponding number of blind holes formed on the extreme end or face of the screwthreaded knob.

A desirable manner of carrying the invention into practice is represented by the accompanying drawings upon which similar letters of reference denote corresponding parts throughout the several views.

Fig. 1 is a longitudinal section of the knob applied to a door, the usual bolt mechanism with which the spindle is associated not being shown for clearness of illustration and as it forms no part of the invention.

Fig. 2 is an elevation of the knob carrying the screwthreaded spindle.

Fig. 3 is an end view of Fig. 2.

Fig. 4 is an end view and elevation of the removable knob.

Fig. 5 shows an elevation and end view of the coupling bush.

Figs. 6 and 7 show end views and sections of the respective rose plates.

The reference *a* indicates the spindle which is usually square and is fixed by the peg *a*2 to the door knob *a*3. *c* is the rose plate associated with the knob *a*3 the said plate having a central hollow boss having three diameters *c*2, *c*3, *c*4, the boss *a*4 of the knob *a*3 rotatably engaging the diameter *c*2 whereas the spindle *a* freely passes through the diameter *c*4 and through the hole *d*2 in the door *d* and projects on the other side of the door.

The door knob *e*, whose bore is screwthreaded at *e*2 to engage the screwthreaded free end of the spindle *a*, has an associated rose plate *f* which may be provided with a plurality of spikes or prongs *f*2 to penetrate the door *d*. Said rose plate *f* has an axial sleeve *f*3 which is rotatably engaged by a separate bush *g* formed with a square boring *g*2 to fit the spindle *a* so as to always rotate therewith and the one face of said bush *g* is provided with a pair of pegs *g*3 which are adapted to register with one or more pairs of suitably distanced blind holes *e*3 on the face of the adjacent end of the knob *e*. Within the diameter *c*3 of the rose plate *c* is located a short length spring *h* operating in compression and having for its respective abutments the shoulder *c*5 of the rose plate and the recessed face *a*5 of the knob *a*3.

The fittings are assembled by threading the knob carrying spindle *a*, on which the spring *h* is mounted, through the bore of the central boss so that the collar *a*4 of the fixed knob revolubly engages the outer diameter *c*2 of the rose plate. The spindle is subsequently threaded through the hole *d*2 in the door, the second rose plate *f* is applied over the screwthreaded end of the spindle and the bush *g* is threaded thereon and revolubly engages the sleeve *f*3, the shoulder *g*4 abutting against the outer rim of the sleeve. On threading the loose knob *e* onto the spindle and depressing the fixed knob *a*3 against the action of the spring *h* the pegs *g*3 are brought to register with a corresponding pair of blind holes *e*3, the longitudinal movement of the spindle *a* being limited by the shoulder bounding the large diameter *c*2 of the hollow boss of the rose plate *c*. By releasing the action of the spring *h* the pegs *g*3 become coupled by engagement with the blind holes *e*3 of the loose knob so that the bush *g* and knob *e* are positively coupled whereby the rotation of either knob *a*3 or *e* results in the rotation of the spindle *a*. The bush *g* is preferably accurately machined and applied to the sleeve of the rose plate *f* so as to move in an anti-frictional manner.

By this arrangement it will be appreciated that knob and spindle fittings of a

292/348

PATENT SPECIFICATION

Application Date: May 1, 1930. No. 13,386/30. **354,190**

Complete Left: Jan. 31, 1931.

Complete Accepted: Aug. 4, 1931.

PROVISIONAL SPECIFICATION.

Improved Knob and Spindle Fittings for Doors and the like.

We, HUGH WALKER O'NEILL, a British Subject, and JOHN EDMUND HOLDEN, a British Subject, trading together as E. HOLDEN & Co., of 21 and 23, Barr Street, Birmingham, do hereby declare the nature of this invention to be as follows:—

The invention provides the hereinafter described improved knob and spindle fittings for a door or the like.

The usual square spindle is permanently fixed at its one end to one of the knobs, and is externally screw-threaded for a distance from its other end. Said fixed knob is formed with an inner cylindrical collar to revolubly and slidably fit within a central hollow boss of a rose plate through which the spindle passes freely.

The central boss is of three internal diameters, an outer one fitting the collar aforesaid, a middle one of a less diameter, and an inner one of a still less diameter to form a free hole for the threading and revolution of the spindle.

A coiled spring operating in compression encircles the spindle adjacent the collar of the fixed knob, so that when the spindle is threaded this spring works between the inner end of the collar and the bottom of the middle diameter of the boss of the rose plate, and tends to push the collar out of engagement with the outer diameter.

The other and second rose plate is formed with an axial short length sleeve, and fitting this sleeve revolubly and slidably is a separate bush having a hole axially through it squared to the spindle, and upon the face of its outer end a number of outstanding pegs of small size. The second rose plate may have spikes on its inner facing.

The loose knob has its inner portion formed with an axial screwthreaded hole to screw onto the screwthreaded end of the spindle, and the extreme end or face of this portion is formed with a number of small blind holes to engage the pegs of the bush.

In assembling the fittings the coiled spring is first threaded on the spindle, and then the first rose plate is applied so that the collar of the fixed knob enters the outer diameter of the rose plate. Now the spindle is threaded through the free hole in the thickness of the door, and afterwards the second rose plate with the loose bush engaging it applied to the spindle so that the latter engages the squared hole in the bush with the screwthreaded part of the spindle projecting behind the bush, and the pegs of the bush extending outwardly.

While the fixed knob is pushed inwardly to its limit in the outer diameter of the first bush, compressing the spring to its fullest extent, the loose knob is screwed onto the spindle end until the inner facing of its end lightly touches the pegs. By now releasing the spring action and rotating the loose knob slightly the holes in the loose knob find the pegs and engage them, so that the loose knob and the bush are rotatably connected, and maintained so, by the spring action, which means that either knob will turn the spindle.

It will be clear that the invention uses no visible fixing screws to the rose plates, but each may have invisible spikes on its inner face to penetrate the wood of the door to prevent the rose plates revolving at any time.

The loose bush is revolubly fitted to the sleeve of the second rose plate in a manner as anti-frictional as possible.

It is preferable to have two pegs on the bush and two or more holes in the face of the adjacent knob end, but the number of these may vary according to requirements.

The foregoing provides knob and spindle fittings very neat and simple in construction and easy of application.

Dated this 30th day of April, 1930.

GEORGE T. FUERY,
Chartered Patent Agent,
Newhall Chambers,
8, Newhall Street, Birmingham.

COMPLETE SPECIFICATION.

Improved Knob and Spindle Fittings for Doors and the like.

We, HUGH WALKER O'NEILL, a British Subject, and JOHN EDMUND HOLDEN, a British Subject, trading together as E. HOLDEN & Co., of 21 and 23, Barr Street,